

## CLAIMS

What is claimed is:

1. A method for providing a meta-data programming language level interface, the method comprising:
  - receiving an object name from a client program via a meta-data retrieval API, wherein said object name corresponds to an object located in a runtime environment that includes one or more methods;
  - requesting meta-data associated with said object from said runtime environment;
  - receiving said meta-data for each said method included in said object; and
  - transmitting said meta-data for each said method to said client program via said meta-data retrieval API.
2. The method of claim 1 wherein said client program is written in Java.
3. The method of claim 2 further comprising:
  - creating an internal data structure of the input class byte array in response to said requesting; and
  - extracting a field and method data from said input class byte array to create said meta-data.
4. The method of claim 2 wherein said meta-data retrieval API includes a Java meta-data class.

5. The method of claim 2 wherein said meta-data retrieval API includes a Java interface meta-data class.

6. The method of claim 2 wherein said meta-data retrieval API includes a Java method meta-data class.

7. The method of claim 2 wherein said meta-data retrieval API includes a Java field meta-data class.

8. The method of claim 2 wherein said meta-data retrieval API includes a Java meta-data type.

9. The method of claim 2 wherein said meta-data retrieval API includes a Java interface meta-data type.

10. The method of claim 2 wherein said meta-data retrieval API includes a Java parameter meta-data type.

11. The method of claim 2 wherein said meta-data retrieval API includes a Java exceptions meta-data type.

12. The method of claim 1 wherein said client program is written in C++.

13. The method of claim 12 wherein said meta-data retrieval API includes a C++ meta-data class.

14. The method of claim 12 wherein said meta-data retrieval API includes a C++ meta-data type.

15. The method of claim 1 further comprising retrieving said meta-data.

16. The method of claim 1 further comprising retrieving said meta-data in a purely abstract manner.

17. The method of claim 1 wherein said meta-data describes a parameter.

18. The method of claim 1 wherein said meta-data describes an exception.

19. The method of claim 1 wherein said meta-data describes a return type.

20. The method of claim 1 wherein said meta-data includes source code.